

I. ECONOMICS

Project Impacts

This forest reestablishment project will provide both short-term and long-term economic benefits to the public and private sectors in California.

The primary and direct economic benefits to the public of timber harvest and sales, may not be realized from this project for up to 50 years, due to the necessary period of forest growth. Estimating future economic return entails making estimates as to the future market situation and allowing for uncertainties that may be encountered during the interim nonproductive period of forest growth. Estimates of long-term demand must consider many variables; among them population and economic trends are of primary importance. Although a risk exists that future stumpage prices may turn out to be less than had estimated, no reforestation would mean no economic return at all since there would be no wood produced and no participation in the market.

The United States Forest Service projected increased future demands for timber products nationally and concluded in its Outlook For Timber In The United States (USDA, Forest Service, 1973) that "fairly substantial increases in prices of timber products relative to the general price level will be necessary to balance demands and available supplies of timber." H. J. Vaux, in his paper How Much do We Need For Timber Growing, has developed estimated long-run supply and demand curves for timber in California that indicate the future demand will support a nearly three-fold increase in wood output above current rates at substantially higher stumpage prices.

Although the manufacturing of forest products in California accounts for only a small percentage of all of the state's manufacturing industries (Oswald, 1970), forest products are still the major factor in many local and regional California economies. The forest products market in California differs from most other western states, which primarily rely upon the national market for their products, in that its timber production is primarily used within the state. If reforestation programs are not administered in California today, it is likely a decrease in production will result and a greater dependency will be placed on other states and countries thereby inviting local money to leave California, which would result in a reduction in internal cash flow. Long-term social implications to be derived from the proposed project are that it will minimize reductions in harvest and employment in California's forest industries. Local and regional economies primarily dependent upon timber resources will gain support and rural area employment will be encouraged.

Utilization of the services of the Conservation Corps will provide an opportunity for youth to become directly involved in the care and management of California's valuable natural resources. Not only will the proposed reforestation project provide employment for Corps work crew members, it will at the same time acquaint them with the efforts being committed toward protecting and enhancing the State's areas of natural beauty to assure enjoyment of it by future generations. Along with receiving a monthly check for the services performed, members of the Corp work crews will receive an education and training that will be beneficial to them in seeking future employment opportunities.

No Project Impacts

The no project alternative will result in the following economic impacts;

(1) The 3,000+ acres of underproductive land will not be utilized to their full potential, and there will be no future income to the state from the sale of the timber which could be produced from these parcels.

(2) The economic benefits to the CCC crew members which will result from the project will be lost.

(3) The estimated \$1,462,484 in grant funds from the U. S. Department of the Treasury will be lost to the State of California if the project is not implemented. Any future reforestation efforts on these school land parcels will be at State expense.

J. RECREATION AND PUBLIC ACCESS

School lands are generally located in remote areas, and access may be difficult due to the general lack of public roads. Since the parcels are in many cases landlocked by other ownerships, permission for access must be obtained from surrounding owners.

Where school land parcels are accessible by public roads, the lands are sometimes used by hunters, fishermen, and hikers on a casual basis. Although the State Lands Commission has the right to approve or disapprove such uses, the casual user does not generally contact the Commission for prior permission.

This project will, in general, not change the present recreational use of these lands. In a few cases, in order to gain physical access to a parcel, a small amount of road-

building will be necessary. The roads will be closed down, however, when the project is over and reseeded to hasten their return to a natural state. Therefore public access and recreational potential will not be changed by this project.

K. AESTHETICS

Project Impacts

Any alteration in land use will affect the scenic quality of an area. The visual impact may be enhanced or degraded, depending on the type of project and how it is managed.

This reforestation will have short and long term impacts on the scenic and aesthetic qualities of the parcels.

Some of the parcels now present a negative aesthetic appearance and lack positive scenic qualities. These areas have been burned or logged in the recent past, and any attempt at reforestation can only serve to improve the aesthetic qualities of these sites.

Other sites are now presently covered with brush, and have a natural appearance. On these sites, there will be short-term negative aesthetic impacts, mainly due to site preparation activities.

In sites cleared by hand methods only, there will be a minimum of negative visual impacts because the sites for each seedling will be hand cleared and scalped, leaving the rest of the parcel untouched. This will create a random pattern of small openings within the existing vegetation which will be harmonious with a natural landscape. As the conifers grow and become a major part of the landscape the increased diversity and wooded atmosphere will enhance the scenic qualities of each site.

On sites cleared by mechanical methods or by herbicide spray and burn operations, the initial effect on scenic qualities will be negative. Areas totally cleared and/or burned generally create a sense of disharmony with the adjacent landscapes. This impact will be alleviated to some extent by the fact that the areas cleared will be remote to human access, and small in comparison with the surrounding areas. In almost all cases, less than the entire parcel will be cleared in this manner. The areas that are cleared also will in many cases be broken up by areas left untreated because of poor site conditions or environmental considerations.

This initial negative impact on the landscape will be short term. As the conifers grow and the understory vegetation becomes established, the sites will regain the more natural landscape appearance which is appealing to the senses. Over the long term the result will be a change in landscape from a brushy area to a forested area interspersed with remnant areas of brush. It is felt that the addition of forested areas will result in the long term enhancement of visual qualities of the area.

Mitigation Measures

Most of the proposed project parcels have access roads in existence. Where road construction is necessary for access, it will be of a temporary nature. Each road area will be recovered and planted. Temporary road construction and work crew occupation of the few affected parcels will not have a long term negative impact on the environment.

Evaluation by the project team will protect attractive areas of species and habitat diversity. Scenic groves, snags, and other vegetative areas that are productive in a forested ecosystem will be retained.

No Project Impacts

The no project alternative will have the following impacts on esthetics:

(1) In areas now presently unattractive, due to recent burning or logging, there will be no improvement in scenic qualities. The area will become revegetated, at a slow rate, and the final vegetation may be limited to brush.

(2) In areas now covered with brush, there will be no short-term negative impact due to site preparation and over the long term, no addition of forested areas to the landscape.

L. ENERGY

There will be no long-term direct use of energy in this project. All consumptive uses will be limited to short-term fuel usage for transportation during the clearing and preparation work on the designated parcels. A few of the parcels may also require the use of 2,4-D, which may employ an oil base as a vehicle. Once the seedlings are established, no direct or indirect form of energy will be expended on the program.

Any measure of success of the program will derive future benefits in terms of the supply of wood materials. Commercial lumber will substitute for other man-made building material, thus saving energy used for their production or in the material itself. An additional benefit will be the availability of firewood, especially if some exotic or hardwood species are planted during the project. This may become a substantial beneficial impact if alternate fuel technologies become more popular or necessary. Replanting with commercial timber may indirectly reduce a future use of energy that would have been expanded in fighting brush fires, since timber is less combustible than brush fields.

M. GROWTH CONSIDERATIONS

Growth inducement as a consideration is extremely limited by the nature of this project. Only a small fraction of State lands will be affected and this only on a non-intensive basis that will not alter the basic nature of the land. An undetermined amount of commercial timber will be provided in a fifty year time frame. This timber when harvested at different times will not contribute to conventional growth, for example suburbanization. Other growth indicators: sprawl, long-term employment, the provision of goods and services, and new infrastructure will not result from this project.

There will be short-term impacts not related to growth. The total project (employment, transportation, and use of petroleum products) will generate a certain amount of short-term cash flow.

N. CULTURAL RESOURCES

When the Spanish arrived in California in 1769, the State supported one of the densest non-agricultural populations in the world, (California Yearbook 1976). The number of Indians present when the white man arrived has been estimated at from 133,000 to more than 250,000 (California Yearbook 1976, California Resources Agency 1973). The California Indians were primarily hunters and gatherers, and the relatively rich supply of acorns, deer, shellfish and fish allowed the populations to reach a density uncommon for most aboriginal peoples.

Although the Spanish and other groups had some contact with the native Californians, many tribal groups had maintained a relatively unchanged way of life until the annexation

of California by the United States and the discovery of gold at Coloma in 1848. These two events caused a massive immigration of whites into even remote areas of the State and effectively ended the Indian era in California (Resources Agency 1973).

Archeological remains of the native Californians are scattered throughout the State. Many have been located and excavated. Positively located sites are recorded with the Office of Historic Preservation. Two files are maintained; the regional files, located in several state colleges and universities, containing the most recent information and the central file at the Office of Historic Preservation in Sacramento. The central file generally does not contain as recent information as the regional files.

To protect significant archeological sites, all parcels proposed for this project, will be checked with the appropriate regional file for the location of any known sites within the area of soil disturbance.

If any sites have been identified within the project area, a field survey will be made by a trained archeologist to determine appropriate mitigation measures. If the site cannot be protected during project activities, then that parcel will be dropped from the project.

In project areas where no archeological sites have been identified, workers will report any evidence of cultural resources to the project leader. If any such evidence is discovered, all project activities in the vicinity will be suspended until a field survey is made by a trained archeologist, to determine the significance of the site.

V. ADVERSE IMPACTS WHICH CANNOT BE MITIGATED

A. SHORT-TERM IMPACTS

1. There will be a short-term adverse impact on the scenic and aesthetic qualities of those areas which will be cleared mechanically and/or burned. Length of impact: 1-3 years.
2. Site preparation activities will result in an unavoidable short term reduction in the local populations of small mammals and birds. The areas can be expected to be recolonized from adjacent areas (Zeiner, Dave).
3. Disposal of cleared brush by burning will cause a temporary degradation of the ambient air quality in the local air basin. This impact will exist during the actual burning operation and for a short time afterwards.
4. Spraying the herbicide 2,4-D by air, will result in a small amount of drift onto non-target vegetation. As a result, there will be some losses among the non-target species.
5. 2,4-D will be present, on the vegetation, and soil, for a short period of time. The 2,4-D will be decomposed by various processes within 3 months (Norris 1966).
6. Use of heavy equipment and road building activities will result in a certain amount of unavoidable soil compaction, damage to soil microflora and erosion. These impacts will be kept to a minimum by the mitigation measures previously discussed, but cannot be eliminated completely.
7. A water repellent layer may form in the soil in areas where brush has been piled and soil burned. This impact will be restricted to a small portion of the total area.
8. There may be a short-term reduction in deer browse when the brush is cleared. If the existing brush is old and degenerate, this impact will be minor. The reduction in available browse will last until the cut-back brush resprouts, or until replacement browse planted under this project becomes available.

B. LONG-TERM IMPACTS

1. There will be a long-term change in the vegetation pattern on portions of the sites. The natural succession of brush to conifers will be hastened. This is the objective of this project, and losses among the target brush species are unavoidable.
2. In burned or logged over areas now relatively barren or with standing dead (ghost) forests, there will be a long-term positive aesthetic change.
3. There will also be a long-term change in the wildlife species present at the sites. The species now present in the existing brush fields will be replaced by species which are adapted to a coniferous forest environment. (Zeiner, Dave).

V. BIBLIOGRAPHY

- Akesson, N. B., and W. E. Yates and S. E. Wilce
1972. Needed: Better Drift Control - Pesticide Drift
Control Results Summarized for 1972. Agrichemical
Age/December 1972
- Ahlgren, Clifford E.
1966. Small Mammals and Reforestation Following Prescribed
Burning. Journal of Forestry 64:614-618.
- Anderson, Kenneth J., Edith G. Leighty, and Mark T. Takahashi
1972. Evaluation of Herbicides for Possible Mutagenic
Properties. Journal of Agricultural and Food Chemistry
Vol. 20 No. 3.
- Anderson, H., M. Hoover, and K. Reinhart
1976. Forests and Water: Effects of Forest Management
on Floods, Sedimentation and Water Supply. USDA
Forest Service General. Technical Report PSW - 18/1976.
- Andre, J. E., and H. W. Anderson
1961. Variation of Soil Erodibility with Geology, Geographic
Zone Evaluation and Vegetation Type in Northern
California Wildlands. Geophys. Res. 66(10): 3351-3358.
- Best, L. B.
1972. First Year Effects of Sagebrush Control on Two
Sparrows. Journal of Wildlife Management 36(2):
534-544.
- Barbour, M. and J. Major (editors)
1977. Terrestrial Vegetation of California. John Wiley
& Sons, Inc.
- Bollen, Walter B.
1974. Soil Microbes. In: Environmental Effects of Forest
Residues Management in the Pacific Northwest. USDA
Forest Service 1974 Portland, Oregon.
- Bollen, Walter Bens
1959. Microorganisms and Soil Fertility. Oregon State
College Press.
- California Resources Agency, Department of Parks and Recreation
1973. The California History Plan.
- California Yearbook
1976. California Almamac Company.

- Cleary, B., and R. Greaves and R. Hermann
1978. Regenerating Oregon's Forests. Oregon State University
School of forestry.
- Cramer, Owen P.
1974. Air Quality Influences. In: Environmental Effects
of Forest Residues Management in the Pacific Northwest
1974. USDA Forest Service Portland Oregon.
- Debano, Leonard F.
1966. Formation of Non-wettable Soils. U. S. Forest Service
Research note PSW-132.
- Debano, L. F. and R. M. Rice
1973. Water Repellent Soils: Their Implications in Forestry.
Journal of forestry - April 1973.
- Debano, L. F. and R. M. Rice
1971. Water Repellent Soils. Journal of Forestry 71:220-223.
- Dodge, M., L. T. Burcham, S. Goldhaber, B. McCullen and
C. Springer
1976. An Investigation of Soil Characteristics and Erosion
Rates on California Forest Lands. California Division
of Forestry 1976.
- Dyness, C. T.
1967. Mass Soil Movements in the H. J. Andrews experimental
Forest. U. S. Forest Service, Res. Paper PNW-42.
Pac. N. W. Forest and Range Exper. Sta. Portland
Oregon.
- Dyness, C. T.
1965. Soil Surface Conditions Following Tractor and High
Lead Logging. Journal of Forestry 63:272-275.
- Edmundson, George C.
1976. Plant Materials Study. A Search for Drought-Tolerant
Plant Materials for Erosion Control, Revegetation,
and Landscaping along California Highways. USDA
Research Project USDA SCS LPMC-1 - June 1976.
- Gratowski, H., and R. Stewart
1973. Aerial Spray Adjuvants for Herbicidal Drift Control.
Gen. Tech. Report PNW-3 USDA Forest Service.
- Griffin, J., and W. Critchfield
1972. The Distribution of Forest Trees in California.
USDA Forest Service Research Paper PSW - 82/1972.

- Kidd, W. J. Jr., and J. N. Kochenderfer
1973. Soil Constraints on Logging Road Construction on Steep Land East and West. *Journal Forestry* 71(5): 280-283.
- Keith, James C., Richard M. Hansen, and A. Lorin Ward
1959. Effects of 2,4-D on Abundance of Foods of Pocket Gophers. *Journal of Wildlife Management* 23:137-45.
- Krefting, Laurits W., and Henry L. Hansen
1969. Increasing Browse for Deer by Aerial Applications of 2,4-D. *Journal of Wildlife Management* 33:784-790.
- Hewlett, John D. and Wade L. Nutter
1969. *An Outline of Forest Hydrology*. University of Georgia Press.
- Hibbert, Alden R.
1965. Forest Treatment Effects on Water Yield. In: *Proceedings of the International Symposium on Forest Hydrology*. William E. Sopper & Howard W. Hull (editors) Pergamon Press.
- Lyon, L. J. and W. F. Mueggler
1968. Herbicide Treatment of North Idaho Browse. *Journal of Wildlife Management* 32(3): 538-541.
- Martin, J. B. and J. O. Ervin
1970. Decomposition and Transformation of Herbicides in Soils. *Proc. 22 Ann California Weed Conf.* 83-108.
- Moore, Duane G. and Logan A. Norris
1974. Soil Process and Introduced Chemicals. In: *Environmental Effects of Forest Residues Management in the Pacific Northwest*. USDA Forest Service 1974 Portland, Oregon.
- Musgrave, G. W.
1947. The Quantative Factors in Water Erosion - a First Approximation. *Journal Soil & Water Conservation*. 2(3): 113-138.
- Newton, Michael
1977. Constructive Use of Herbicides in Forest Resource Management. *Journal of Forestry* - June 1975 - 329-336.
- Newton, Michael and Logan A. Norris
1968. Herbicide Residues in Blacktailed Deer from Forests Treated with 2,4,5-T and Atrazine. *Proc. West. Soc. of Weed Sci.*

Norris, L. A.
1966. Degradation of 2,4-D & 2,4,5-T in Forest Litter.
Journal of Forestry 64:475-476.

Oswald, Daniel D.
1970. "California Forest Industries -- Prospects for
the Future" USDA, Forest Service Resource Bulletin
PNW-35.

Schubert, G. and R. Adams
1971. Reforestation Practices for Conifers in California.
State of California, Resources Agency, Department
of Conservation, Division of Forestry. September 1971.

Starker, Leopold A.
1950. Deer in Relation to Plant Successions. Journal
of Forestry 48: 675-78.

Steinbrenner, E. C. and S. P. Gessel
1955. The Effect of Tractor Logging on Physical Properties
of Some Forest Soils in Southern Washington. Soil
Science Society of America Proceedings 1955: 372-376.

Stone, Earl
1973. The Impact of Timber Harvest on Soils and Water.
In: Report of the Presidents Advisory Panel on
Timber and the Environmental April 1973.

Thilenius, J. E., and G. R. Brown
1974. Long-term Effects of Chemical Control of Big Sagebrush.
Journal of Range Management 27(3): 223-224.

Tietjen, Howard P., Curtis H. Halvorson, Paul L. Hegdal
and Ancel M. Johnson
1967. 2,4-D - Herbicide, Vegetation & Pocket Gopher Relation-
ships Black Mesa California Ecology 48 634-4.

USDA
1974. Soil Survey of El Dorado Area, California.

USDA Forest Service
1978. Final Environmental Statement Vegetation Management
with Herbicides.

USDA Forest Service
1972. Environmental Statment. Brushland Management.

USDA Forest Service
1974. Seeds of Woody Plants in the United States. Agriculture
Handbook No. 450.

USDA Forest Service
1973. Silviculture Systems for the Major Forest Types
of the United States, USDA Forest Service March
1973 Agriculture handbook No. 445.

USDA Forest Service
1979. Environmental Statement. Forest Re-establishment
on National Forests in California.

USDA Forest Service
1973. Outlook for Timber in the United States.

U. S. Forest Service
1978. Proceedings of a Workshop on Techniques of Rehabil-
itation & Erosion Control in Recently Roaded and
Logged Watersheds, with Emphasis to North Coastal
California. U. S. Forest Service PSW Experimental
Station.

U. S. Environmental Protection Agency Region
1977. Silviculture Chemicals and Protection of Water
Quality.

Vaux, H. J.
1973. "How Much do we Need for Timber Growing". Journal
of Forestry 71:7

Way, J. M.
1969. Toxicity and Hazards of Auxin Herbicides. Residue
Review 26:3.

Willen, Donald W.
1965. Surface Soil Textural and Potential Erodibility
Characteristics of Some Southern Sierra Nevada
Forest sites. Soil Sci. Soc. Am. Proc. 29(2): 213-218.

Wright, Ernst and W. B. Bollen
1961. Microflora of Douglas Fir Forest Soil. Ecology
42:825-828.

Zeiner, Dave
California Department of Fish and Game Personal
Communication.

VII. APPENDICES

APPENDIX A

REGULATIONS OF THE AIR RESOURCES BOARD - FOREST MANAGEMENT BURNING SUBCHAPTER 2, TITLE 17, CALIFORNIA ADMINISTRATIVE CODE

80170. Forest Management Burning.

(a) A district with no forest management burning within its jurisdiction may request to be exempted from the requirements of this section.

(b) where an implementation plan for forest management burning is required, the plan shall include rules and regulations which:

- (1) Limit the ignition of fires to approved ignition devices;
- (2) Regulate the total amount of waste that may be burned each day;
- (3) Require the waste to be ignited as rapidly as practicable within applicable fire control restrictions;
- (4) Regulate burning when the wind direction is toward a nearby populated area;
- (5) Require the waste to be dried for minimum periods to be specified by the designated agency;
- (6) Require the waste to be free of tires, rubbish, tar paper or construction debris;
- (7) Require the waste to be burned, to be windrowed or piled where possible, unless good silviculture practice dictates otherwise;
- (8) Require the piled waste to be prepared so that it will burn with a minimum of smoke; and
- (9) Require the piled waste to be reasonably free of dirt and soil.

Note: Authority Cited: Health and Safety Code
Section 41863.

APPENDIX B

REGULATIONS FROM THE CALIFORNIA ADMINISTRATIVE CODE, HERBICIDES, TITLE 3 AGRICULTURE CHAPTER 2

2450. General Regulations. The following provisions apply to all uses of restricted herbicides whether or not a permit is required:

(a) packages of restricted herbicides shall not be opened or exposed, and opened containers or leaky containers or equipment in which restricted herbicides have been used shall not be stored nor handled, at any place where they may contaminate other pesticides, fertilizing materials, planting seed, nursery stock, or plants for sale to or owned by another person.

(b) Restricted herbicides, or emptied containers or parts thereof shall not be dumped or left unattended at any place where plants of value may be injured by the vapor or by water flowing through or over the material, or where contaminated soil is likely to be transported or used in proximity to susceptible crops.

(c) Equipment used for restricted herbicides shall not be stored in any place nor used for any purpose whereby susceptible crops may be affected.

(d) All equipment for application of restricted herbicides shall be suitable for such purpose and shall be properly adjusted and regulated when in use so as to prevent drift of the herbicide outside the treated area. Equipment for application of restricted herbicides by aircraft shall be leak-proof, with flow of liquid to nozzles controlled by a positive shutoff system whereby each individual nozzle is equipped with a check valve and the flow of liquid controlled by a suck-back device or a boom pressure release device; or each individual nozzle equipped with a positive action valve.

(e) No restricted herbicide shall be discharged directly over or upon any property without authorization from the owner or operator of such property.

(f). Nothing in these regulations shall be construed to permit use of restricted herbicides in any of the following forms:

(1) Aerosol.

(2) Highly volatile liquid, such as methyl, ethyl, propyl (isopropyl), butyl or amyl (pentyl) esters, except as provided in Section 2455.

(3) Dust or powder, except:

A. As a constituent in a fertilizer applied solely to lawns.

B. As a "dustless powder" or in granular or pelleted form applied by hand.

(g) Unless expressly authorized by permit, no application of a restricted herbicide shall be made when wind velocity exceeds ten miles per hour; nor at a height greater than ten feet above the ground when wind velocity exceeds five miles per hour.

(h) No restricted herbicide shall be used under circumstances where injury is likely to result to plants of value on property other than the property to be treated, either through drift of the herbicide during application or through subsequent movement of vapor or contaminated dust in the wind; nor at any time when the form of the herbicide, the method of application, the condition of surrounding crops, weather conditions, or other circumstances present risk of injury to crops.

CHAPTER 3

Article 2. 2,4-D and Other Herbicides

14031. As used in this article, "2,4-D" means any form of 2,4-dichlorophenoxyacetic acid.

14032. Except as otherwise provided in this article and in the regulations which are adopted by the director, it is unlawful for any person to use any form of 2,4-D or any other herbicide which the director finds and determines, after hearing, is injurious to any crop.

14033. The director, after investigation and hearing, shall adopt regulations which govern the use of 2,4-D and any other herbicide which he finds and determines is injurious to any crop that is being grown in any area of the State. The regulations of the director may prescribe the time when, and the conditions under which, a restricted herbicide may be used in different areas of the State. They may provide that a restricted herbicide shall be used only under permit of the commissioner or under the direct supervision of the commissioner, subject to any of the following limitations:

(a) In certain areas.

(b) In excess of certain quantities or concentrations.

14034. This article does not relieve any person from liability for any damage to the property of another person which is caused by the use of any herbicide which is named in the regulations which are adopted by the director.

14035. It is unlawful for any person to sell or deliver any herbicide for which regulations have been adopted by the director to any person that is required by such regulations to have a permit to use such herbicide unless such person, or his agent to whom delivery is made, signs a written statement, in a form which is prescribed by the department, that such person holds a valid permit to use the kind and quantity of the herbicide which is delivered.

2458. Herbicide Restrictions

(a) Unless expressly authorized by permit, no liquid herbicide specified in section 2450(m) shall be:

(1) discharged more than ten feet above the crop or target. Discharge shall be shut off whenever it is necessary to raise the equipment over obstacles such as trees or poles.

(2) Applied when wind velocity is more than ten miles per hour.

(b) Aircraft Nozzle Specifications:

(1) The flow of liquid to nozzles shall be controlled by a positive shutoff system whereby each individual nozzle is equipped with a check valve and the flow controlled by a suckback device or a boom pressure release device; or each individual nozzle shall be equipped with a positive action valve.

(2) Nozzles shall not be equipped with any device or mechanism which would cause a sheet, cone, fan, or other dispersion of the discharged material.

(3) Nozzle pressure shall not exceed 45 pounds per square inch.

(4) Fixed wing aircraft and helicopters operating in excess of 55 miles per hour shall be equipped with jet nozzles having an orifice not less than 0.0625 inch in diameter. Orifices shall be directed backward parallel to or not more than ten degrees downward from the horizontal axis of the aircraft in flight.

(5) helicopters operating at 55 miles per hour or less shall be equipped with either:

(A) Jet nozzles having an orifice not less than 0.0625 inch in diameter. Orifices shall be directed backward parallel to or not more than 90 degrees downward from the horizontal axis of the aircraft in flight; or

(B) the Microfoil (R) boom (a coordinated spray system including airfoil-shaped nozzle with each orifice not less than 0.013 inches in diameter) or equivalent type approved by the director. Orifices shall be directed backward parallel to or not more than ten degrees downward from the horizontal axis of the aircraft in flight.

(c) Ground Equipment Nozzle Specifications:

(1) Ground equipment shall be equipped with nozzles having an orifice not less than 0.059 inch in diameter.

(2) Pressure shall not exceed 30 pounds per square inch.

APPENDIX C

FOREST PRACTICE RULES CALIFORNIA ADMINISTRATIVE CODE TITLE 14, DIVISION 2, CHAPTER 2

SUBCHAPTER 1 COAST FOREST DISTRICT

912.24.1. Stream and lake protection Zone. "Stream and lake protection zone" means a strip of soil and vegetation along both sides of a stream or around the circumference of a lake defined as follows: 100 feet as measured along the surface of the ground from the stream and lake transition line of any stream or lake which supports and is used by trout or anadromous fish at any time of the year, and downstream therefrom; and within 50 feet as measured along the surface of the ground from the stream or lake transition line of any other streams or lakes as defined in Section 912.24 and 912.9 of these rules.

The Registered Professional Forester and the State Forester may agree, after on-the-ground inspection, if requested by either party, to either increase or decrease the above distances not to exceed 50 percent, based on soil, slope, or climatic factors necessary to protect soil, water, or fish and wildlife resources. Such changes will be designated on the Timber Harvesting Plan.

ARTICLE 5. EROSION CONTROL

915. Erosion Control. Logging roads, tractor roads, landings, firebreaks and falling layouts shall be designed, located and constructed in a manner which will hold excavation and soil movement to the minimum consistent with sound forest management practices to fully utilize the timber resource, protect water quality, minimize displacement of surface soil, minimize erosion and maintain the productivity of forest lands and soils.

915.3. Tractor Roads. The location of constructed tractor roads shall be flagged in advance of construction of slopes over 50%, wherever the Erosion Hazard Rating for the area is extreme. Tractor roads shall be limited in number and width to the minimum necessary for removal of logs.

915.5. Waterbreaks. Waterbreaks shall be constructed concurrently with the construction of firebreaks and immediately